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Title: Changing students' attitudes to people with intellectual disabilities:

Findings from a natural experiment

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Abstract

Clinical psychologists are often involved in attempts to change attitudes towards people with intellectual disabilities. Sometimes this is with groups of carers and staff and sometimes with students (trainees or undergraduates). This study examined whether exposure to publicly available videos can change students' attitudes towards people with intellectual disabilities (ID), and whether the content of videos (positive or negative) was associated with differential attitude change. Overall, 153 psychology undergraduates participated in the study, with 102 watching a negative content video (Winterbourne View) and 51 watching a positive content video. A quasi-experimental design compared two equal-sized groups matched on initial levels of attitudes (N=29 in each group). Results indicated that the content of video was associated with a different course of change: the positive video related to improvement in empowerment, similarity, proximal living attitudes, while the negative was associated with a worsening in attitudes. These findings are directly relevant to the training environments familiar to clinical psychologists. Videos can be useful means of changing attitudes where direct contact with people with ID is not possible. To achieve positive change in attitudes, videos need to bring out the strengths of people with ID by emphasising their achievements.

Introduction

For clinical psychologists in training, approaching their intellectual disabilities placement is somewhat different to other placements. Prior to training, they will have met many adults who do not have mental health problems, many children who do not need referral to CAMHS, and many older adults without cognitive impairment. This gives them an important referent point of normality. But this may not be the case with ID and many students (trainees and undergraduate) may only have knowledge of ID from the media and will therefore have a skewed idea of the ID population as a whole (Jones, 1996). Therefore media images can have an extra power in shaping attitudes to this population. We also know from the literature on attitude change that negative images can have the effect of making people want to avoid contact even if it elicits sympathy and (in the case of charities) donations (Doddington et al., 1994).

The majority of studies looking into attitude change suggest that the most effective interventions are the ones that combine cognitive components (increased knowledge about disability) with behavioural ones: namely, increased contact with people with disabilities (Campbell et al., 2003; Krahé & Altwasser, 2006). In the past, advertising campaigns run by voluntary organisations often used negative depictions of individuals with ID (e.g., - malnourishment, restraint, isolation) to elicit guilt, sympathy and pity as these were strongly associated with donating behaviours (Eayrs & Ellis, 1990). Media images are still most often the main source of contact for a large portion of the public and contribute to shaping their attitudes towards people with ID (Coles & Scior, 2012). Other experimental evidence has suggested that exposure to negative content (e.g., images designed to elicit pity) is associated with feelings of sadness but not necessarily accompanied by behaviour change (i.e., donating; Doddington et al., 1994; Kamenetsky et al., 2015). However, the link between negative content of contact and attitudes, as opposed to feelings and behavioural intention was not addressed in these studies. A recent systematic review (Seewooruttun & Scior, 2014) concluded that current evidence about the efficacy of indirect contact (e.g., videos) to improve attitudes towards people with ID is inconclusive. The authors identified six studies that used indirect contact to change attitudes, of which three used videos. Of these, two showed no change in self-rated attitudes following exposure to videos (Hall & Minnes,

1999; Iacono et al., 2011). The third did show a significant improvement in some aspects of attitudes (Walker & Scior, 2013). This study was the only study to date that compared the effects of a video that matched Allport's conditions (positive content) with a second video that focused on the harassment and discrimination experienced by people with ID (negative content). The researchers measured social distance and attitudes using the Community Living Attitude Scale-Mental Retardation (CLAS-MR; Henry et al., 1999), one of the most well established measures of attitudes. Walker and Scior (2013) found no difference between the two videos in terms of social distance and attitudes, with the exception of empowerment that improved under the condition of negative content video. They attributed this differential change in empowerment to viewers experiencing stronger emotional reactions to the negative content video.

With the current study, we aimed to extend the evidence in this area by comparing the effect of different types of indirect contact (through videos) on attitudes towards individuals with ID. At the time the Winterbourne View scandal was very much in the public domain and images associated with it were frequently referred to. The study was conducted under naturalistic conditions in the context of a Psychology undergraduate course. The present study aimed to examine (a) whether indirect contact through video during a teaching session is associated with a shift in attitudes; and (b) whether negative or positive content of contact is associated with different attitudes.

Methods

Participants and setting

One hundred and fifty three Psychology undergraduates participated in the current study, during two consecutive academic years (year A: 102, and year B: 51). All students were registered on the third-year elective module on the psychology of ID. To facilitate honest responding from individuals, anonymised data was taken and did not include any demographic characteristics as these could potentially be perceived as threatening respondent anonymity. Participants were provided with a rule to create an anonymous identity that was used to link pre and post measures. Overall, before the intervention participants in the present study held positive attitudes, as demonstrated by significantly more positive attitudes with regard to similarity, sheltering and exclusion compared to

135 34-year-olds in the UK (Scior et al., 2010), and the US norms (Henry et al., 1999). Table 1 presents these comparisons.

Table 1. Comparison of baseline levels of attitudes between present sample of Psychology undergraduates and available UK and US data.

	Present sample (N=153)	Scior et al. (2010) (N=135)	Effect size difference with Scior et al. (2010) (95% CI)	Henry et al. (1999) (N=340)	Effect size difference with Henry et al. (1999) (95% CI)
CLAS-ID Subscale					
Similarity	5.38 (.68)	4.93 (.73)	0.64 (.40, .88)	4.64 (.64)	1.13 (.93, 1.34)
Sheltering	2.73 (.65)	3.31 (.82)	-0.79 (-1.03, -.55)	3.26 (.79)	-0.71 (-.90, -.51)
Exclusion	1.46 (.52)	1.78 (.83)	-0.47 (-.70, -.23)	1.77 (.63)	-0.52 (-.71, -.33)
Empowerment	4.14 (.67)	4.08 (.60)	0.09 (-.14, .33)	4.02 (.79)	0.16 (-.03, .35)

CLAS-ID: Community Living Attitudes Scales-Intellectual Disability version (Henry et al., 1999).

Measures

Attitudes towards people with ID were measured using the Community Living Attitudes Scales-Mental Retardation (CLAS-MR; Henry et al., 1999) that assesses four attitudes: (a) beliefs about the extent that people with a disability should be empowered to make a decision about their own lives: empowerment subscale, (b) attitudes regarding their exclusion from community life: exclusion subscale, (c) attitudes regarding the need to protect them from danger or harm in their communities: sheltering subscale, and (d) beliefs about the extent to which people with a disability share a common humanity with other people in society: similarity subscale. The scale has a total of 40 items (Form A; Henry et al., 1999), each rated on a 1 (strongly disagree) to 6 (strongly agree) scale. Subscale scores are obtained by taking the average of the respective scale items. Good psychometric properties are reported for the CLAS-MR (Henry et al., 1999), and similarly good levels of internal consistency were found in this study (estimated on the pre-data). Cronbach's alphas were .813 and .818 for empowerment, .830 and .865 for exclusion, .684 and .640 for sheltering, .744 and .840 for similarity in years A and B, respectively.

In addition to the CLAS-MR, a measure of social distance (Social Proximity Scale; Eayrs, Ellis & Jones, 1993) was used to capture how comfortable students were with the spatial proximity of people with ID. The scale includes 10 items measured on a 5-point scale from 'I would encourage it' to 'I would not allow it'. Items describe different levels of proximity, e.g., "How would you feel if a person with ID wanted to stay in the house next door", "How would you feel if a person with ID washed your hair at the hairdressers". The proposed factor structure (Eayrs et al., 1993) included few items within two of the three proposed factors, suggesting potential instability. Therefore, we used pre-data from year A (because of their earlier availability) to describe the latent structure of observed items by conducting an exploratory factor analysis (EFA). The results of the EFA with Oblimin rotation indicated the presence of two factors with an eigenvalue above 1.0, together accounting for about 52% of the observed variance. The factors were strongly correlated ($-.639$), thus supporting the decision to opt for oblique rotation. All items loaded ($>.300$) on at least one factor, and two items loaded on both factors ('How would you feel if a person with ID... wanted to live next door?;... washed your hair at the hairdresser's?'). Seven items loaded onto

a factor measuring close personal contact (e.g., person with ID lodging with you, visiting your home). Five items loaded onto a factor measuring proximal living (person with ID wanted to live in your neighbourhood, in the same hotel as you). Scores were created by summing item scores. Higher scores indicate more positive attitudes. The two factors had good internal consistency: .823 and .834 for close personal contact, .870 and .793 for proximal living in years A and B, respectively.

Procedure

The project was approved by the Research Ethics Committee of the School of Psychology, Bangor University (Wales, UK). The project took place around a 2-hour teaching session on Quality of Life of individuals with ID. The session was structured to include (in order of presentation) the completion of attitude scales before any teaching and videos were presented (pre-data, 15 mins), a session overview (1 min), an individual exercise (10 mins), videos (see below), powerpoint slides on the core topic (about 60 mins including a break), session closure (2 mins) and completion of measures after teaching (post-data, 15 mins). The session was identical between years A and B, with the exception of the video.

In year A, students were shown two scenes from the BBC's Panorama programme. Together, they lasted about 13 minutes. Scenes were drawn from undercover footage inside Winterbourne View, a residential facility for people with ID. The first scene showed a female resident being woken up and dragged out of bed, while the second one showed a female resident restrained under a chair against her will. The scenes were selected to indicate the violation of human rights and the lack of control over the environment and daily lives experienced by the residents. We hypothesised that the depiction of abuse would evoke strong emotions (c.f., Walker & Scior, 201) that would be associated with an improvement in attitudes.

In Year B, students were shown two videos lasting approximately 7 minutes in total. One had been created by Mencap (UK third-sector organisation) where a young adult with ID and visible physical disabilities was narrating his successful employment history and was also shown to interact with his wife and son (Sufi's story; <https://www.mencap.org.uk/node/26426>). The second clip was entitled

'More alike than different' and had been created by a US charitable organisation (National Down Syndrome Congress). Young adults with Down syndrome narrated their own stories of employment, studying at university, personal relationships (<http://morealikehandifferent.com/home/meet-the-advocates/>). Videos were selected to depict individuals close in age to the students who discussed topics that are of interest to all young adults (employment, studying, relationships). Both videos had a clear positive message about success. It was hypothesised that participants would identify the alignment of experiences and thoughts between themselves and the people with ID, leading thus to an improvement in attitudes.

Post data were provided from 81 of the 153 students with pre data suggesting a retention rate of 53%. Exploring the potential for non-random attrition, initial levels of attitudes were compared between those who provided post data and those who did not. There were no significant differences with respect to attitudes towards sheltering, exclusions, close personal contact and proximal living. There were, however, significant differences with respect to similarity and empowerment ($p < .05$): participants with available post data had more positive baseline attitudes with regard to similarity and empowerment. Therefore, this slight bias in retention needs to be kept in mind when interpreting the results.

Approach to analysis

To address the first question of whether viewing a video during a teaching session can be associated with a shift in attitudes, we first examined the change between pre and post within each year. Table 2 reports the results of paired t -tests, along with effect sizes that express the standardized difference (d) between the two time points within each year group, accounting for the scores' pre-post correlation.

The second research question aimed to examine whether the negative or positive content was associated with different change in attitudes. We first examined whether the two year groups differed with respect to baseline attitudes. Two of the six subscales were significantly different: empowerment and similarity, both from the CLAS-MR scale. Therefore, we used the available pool of participants ($N=153$) to create a matched group design using case-control matching on all baseline CLAS-MR subscales with a tolerance factor of

0.4: that means that Year B participants were matched to Year A participants on a 1:1 basis on each CLAS-MR subscale if their scores did not differ by more than 0.4. This resulted in 29 people in each group. Case-control matching is a type of quasi-experimental design that is a good alternative to scenarios where experimental control is not feasible or desirable, as was the case here, and aims to eliminate variance in the outcome by making the groups comparable at the start of the intervention. This was achieved as initial levels of attitudes were no longer different between groups after matching. Within these matched groups, N=14 in Year A provided post scores, and N=24 in Year B provided post scores. To address the research question, we compared the *change* in attitudes between the two matched groups taking into account the pre-post score correlation within each group (Lipsey & Wilson, 2001). This effect size (d) is the standardised mean difference of attitude change between the two year groups. All effect sizes can be interpreted using Cohen's guidelines of small (.30), medium (.50) and large (.80) (Cohen, 1988).

Results

Change in attitudes following contact through videos

Table 2 presents students' scores on the CLAS-MR subscales along with their scores on the two Social Proximity Scale subscales (close personal contact and proximal living) before and after viewing the videos. In Year A (negative content video), the comparisons indicate that there was no significant change in empowerment and sheltering attitudes, nor attitudes related to close personal contact and proximal living. There was a significant, small decrease in similarity attitudes ($t=2.928$, $p=.006$; $d=-.36$, 95% CI: $-.68$, $-.03$), suggesting students viewed people with ID as less similar to themselves. There was also an increase in exclusion attitudes ($t=-2.09$, $p=.043$), but the small effect size ($d=.25$) was not significant (95% CI: $-.07$, $.57$) likely due to the large score variability.

In Year B (positive content video) there was no significant change in attitudes related to close personal contact, proximal living attitudes, similarity and sheltering. A significant improvement was evident in empowerment scores ($t=3.67$, $p=.001$) associated with a small but significant effect size ($d=.37$, 95% CI: $.07$, $.67$), suggesting that following the video students viewed people with ID as more able to lead independent lives. There was also a significant decrease in

exclusion ($t=-2.46$, $p=.018$), but the small effect size ($d=-.20$) suggested the magnitude of the change was not significant (95% CI: $-.50$, $.10$).

Table 2. Examining change in attitudes within each year group

Year A (N=38)	Pre data	Post data	Comparison (<i>t</i> test)	Effect size <i>d</i> (95% CI)
Similarity	5.22 (.57)	4.99 (.67)	2.928, <i>p</i> =.006	-.36 (-.68, -.03)
Empowerment	4.22 (.52)	4.09 (.69)	1.584, <i>p</i> =.122	-.21 (-.53, .11)
Exclusion	1.35 (.41)	1.52 (.72)	-2.09, <i>p</i> =.043	.25 (-.07, .57)
Sheltering	2.73 (.72)	2.73 (.85)	0, <i>p</i> =1	0 (-.32, .32)
Close Personal Contact	28.61 (3.2)	28.24 (3.3)	1.027, <i>p</i> =.311	-.11 (-.43, .21)
Proximal Living	22.91 (2.0)	21.79 (2.2)	1.954, <i>p</i> =.058	-.20 (-.52, .12)
Year B (N=43)				
Similarity	5.74 (.66)	5.77 (.64)	-.416, <i>p</i> =.679	.05 (-.25, .35)
Empowerment	4.40 (.59)	4.63 (.64)	3.67, <i>p</i> =.001	.37 (.07, .67)
Exclusion	1.53 (.58)	1.41 (.59)	-2.46, <i>p</i> =.018	-.20 (-.50, .10)
Sheltering	2.81 (.58)	2.88 (.65)	.707, <i>p</i> =.484	.15 (-.20, .40)
Close Personal Contact	27.81 (3.24)	28.21 (3.52)	1.28, <i>p</i> =.208	.12 (-.18, .42)
Proximal Living	21.58 (1.87)	21.77 (2.25)	.916, <i>p</i> =.365	.09 (-.21, .39)

¹ Standardised mean difference of mean change within each year group taking into account the pre-post score correlation within each group (Lipsey and Wilson, 2001).

Matched-group comparison of attitude change following negative and positive content

Table 3 presents the pre and post mean of matched group participants, and includes the effect size (d) that examines whether the pre-post change within each group is similar or different between the two years. The pre-post change in attitudes was similar for sheltering, exclusion, and close personal contact, as indicated by the non-significant effect sizes. This suggests that overall change in sheltering and exclusion attitudes along with attitudes on close personal contact was similar following the positive and negative content video. Significant differences were observed for proximal living, empowerment and similarity. Effect sizes suggested large between group differences on empowerment ($d = -.98$ 95% CI: -1.69, -.28), and similarity ($d = -.83$ 95% CI: -1.41, -.25). The score means (Table 3 and Figure 1), suggest that the positive content (Year B) was associated with an increase in empowerment and similarity attitudes, while the negative content was associated with a reduction in these attitudes. At the same time, the negative content video (Year A) was associated with a reduction in proximal living scores, while the positive video content (Year B) was associated with an increase in these scores. This difference was moderate but significant: $d = -.47$ (95% CI: -.93, -.02). In this subscale, we note that the initial difference (though not significant) and the significantly different course of change in each group resulted in post-scores that converged more.

Table 3. Matched group comparison of attitude change following indirect contact through video with negative content (Year A) and positive content (Year B)

	Year A (N=14)		Year B (N=24)		Effect size d^1 (95% CI)
	pre	post	pre	post	
<i>CLAS-MR</i>					
Similarity	5.61 (.28)	5.29 (.64)	5.72 (.52)	5.83 (.58)	-.83 (-1.41, -.25)
Exclusion	1.31 (.36)	1.43 (.84)	1.36 (.35)	1.28 (.34)	.42 (.00, .84)
Sheltering	2.63 (.61)	2.77 (.64)	2.67 (.46)	2.75 (.56)	.06 (-.61, .73)
Empowerment	4.32 (.37)	4.01 (.74)	4.44 (.48)	4.68 (.60)	-.98 (-1.69, -.28)
<i>Social Proximity Scale</i>					
Close Personal Contact	28.50 (3.74)	27.71 (3.10)	27.96 (2.20)	28.63 (2.02)	-.55 (-1.11, 0.01)
Proximal Living	22.79 (1.85)	22.21 (2.26)	21.71 (1.63)	22.00 (1.69)	-.47 (-.93, -.02)

¹ Standardised mean difference of mean change between the two groups taking into account the pre-post score correlation within each group (Lipsey and Wilson, 2001).

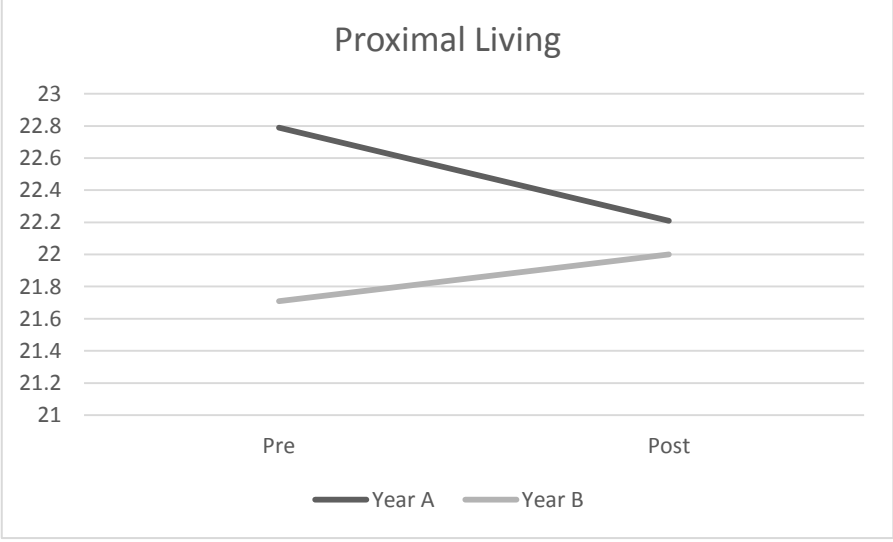
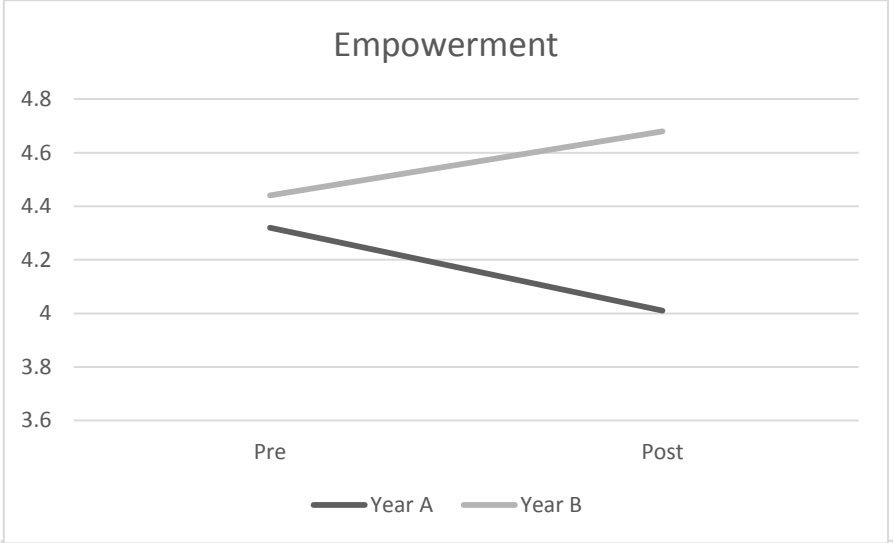
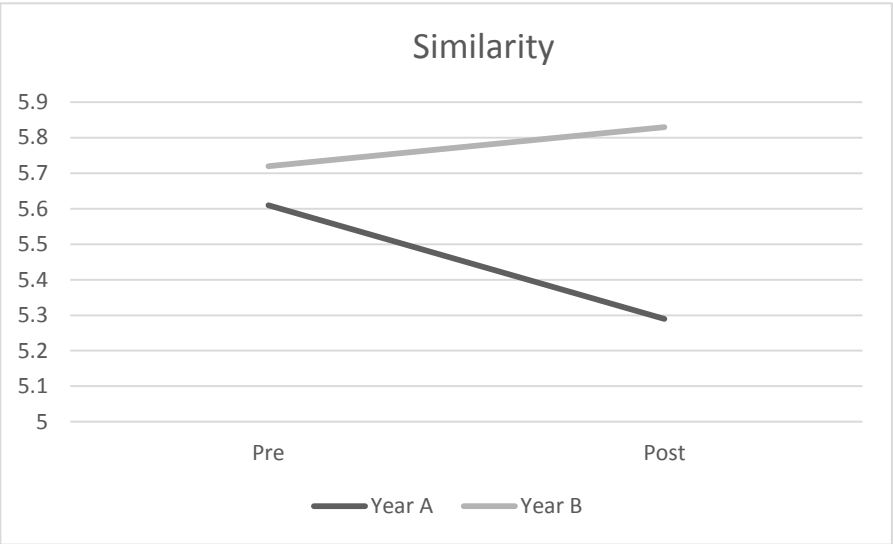


Figure 1: Change in attitudes following negative video content (Year A) and positive video content (Year B): matched group data

Discussion

The first research question focused on whether a shift in attitudes can be measured following indirect contact via videos. Social proximity attitudes and attitudes towards exclusion and sheltering of people with ID did not change substantially following indirect video contact. On the other hand, empowerment and similarity appeared more sensitive to exposure to video as both demonstrated change, albeit in a different way. Therefore, it appears that a brief intervention (10 minute) through indirect contact has the potential to change some attitudes but not all. The findings are in agreement with findings from a recent review that suggested mixed success in changing attitudes following indirect contact via short videos (Seewooruttun & Scior, 2014). One possible explanation for this mixed success is the short length of the intervention. However, evidence is emerging that the quantity of contact is either unrelated to attitudes (McManus et al., 2011) or can actually have a negative impact on attitudes (Keith et al., 2015). A further possibility is that indirect contact has only a finite potential in affecting attitudes, and if widespread attitude change is desired direct contact may be more effective. Future studies need to compare directly the two modes of contact (direct vs indirect), as implications with regard to training for attitude change towards disability are important (Morgan, 2012).

To examine whether the type or content of contact was associated with different change in attitudes, we initially matched the year groups on their levels of attitudes at the start of the intervention, creating thus two smaller groups with comparable levels of initial attitudes. Findings indicated that there was a large significant difference in the amount of change for similarity and empowerment attitudes: they increased after viewing the positive content video while they decreased following the negative content video. Similarly, the same difference in the course of change was also observed in attitudes towards proximal living. Year A students who viewed the negative video showed a decrease in proximal living scores while year B who viewed the positive video showed an increase. This suggests that indirect contact that has a positive content has the potential to improve attitudes by making people more likely to think that people with ID are more like themselves, that they can be empowered to lead independent

lives, and that they can live close to them in society. These findings lend support to the theoretical suggestion that attitudes improve when contact highlights the equal status of the outgroup (Allport, 1954).

Interestingly, findings also suggested that exposure to negative contact, i.e., contact that highlighted the abuse and injustices suffered by this group of people was associated with a reduction in attitudes of similarity, empowerment and proximal living. While we did not explore the mechanism of change, it is likely that the negative video served to highlight differences between people with ID and those without, making those without ID psychologically distance themselves further from people with disability (Ouellette-Kuntz et al., 2010).

These findings differ from Walker and Scior's (2013) study, which is the only other study to compare CLAS-MR and social distance attitudes between two different content videos. In their study, only empowerment changed significantly following a video that discussed harassment and discrimination; i.e., negative aspects of living with ID. In our study, three of the six attitude indicators changed, and positive changes in attitudes followed the positive content video. This difference might be related to the nature and quality of the videos. Both videos used in the present study were assumed to be associated with strong emotional reactions, whereas in the Walker and Scior study (2013) it was suggested that the negative video might have generated more intense feelings in viewers. It should be noted however that none of the two studies measured the intensity of emotional response generated by the visual material. Available evidence suggests that strong messages have a significant correlation with attitudes (Mitchell et al., 2001).

Overall, findings from this natural experiment add to the literature in the field by suggesting that attitude change can be achieved, at least to a certain extent, in an educational context using indirect contact, but the content of the contact is associated with different change in attitudes, whereby positive content is associated with more positive attitudes. There are a number of limitations that should be highlighted. The most significant one is the lack of randomisation within each year group. We considered that this would render the teaching context farther removed from naturalistic conditions, and we opted instead for a quasi-experiment, with a substantial loss in power, as the sample size

decreased. Second, the data in this study include an inherent bias towards positive attitudes: initial levels of attitudes were very positive, likely because these students *elected* to enrol in a module about ID. Obviously, when comparing levels of attitudes with other norms, it is important to bear in mind that societal attitudes towards ID generally improve over time (Wilkison & McGill, 2009). In addition, the attrition analysis suggested a slight bias in those who remained in the evaluation to provide data post-intervention. Missing data analyses have not been conducted in this way in similar educational evaluations, and we believe that differential attrition might be associated with how students might have perceived the relationship between the evaluation of attitudes and the evaluation of the cognitive content of the module. Therefore, there is a possibility that students with less positive attitudes opted not to share them as they feared they could be linked to their performance during module assessments. We took every possible measure to indicate to students that the two were separate, by keeping researchers separate from teachers and completing fully anonymised attitudes scales without demographic information. However these steps may not have been fully successful, and future research on attitude interventions within educational contexts needs to be alert to the possibility of differential attrition.

The present findings have practical implications for clinical psychologists who see attitude change as part of their wider role as advocates for people with ID. This role can involve attempts to change attitudes in several contexts: educational, staff training, public attitude campaigns. Findings indicate the usefulness of videos to simulate contact with people with ID, in an environment – higher education- where direct contact may not always be possible. The findings highlight that to achieve positive change in attitudes, it is important to bring out the strengths of people with ID and similarities in experiences, goals and aspirations between the two groups. Finally, the findings add to the limited literature around the type of media representation of people with ID that is more likely to be of benefit to public attitude change campaigns, by suggesting that a ‘feel good’ factor is important for positive attitude change (e.g., Ferrara et al., 2015; Kamenetsky et al., 2015).

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